CLAIMS

Now, therefore, the following is claimed:

SUB A1

1. A graphical display system, comprising:

a first graphics pipeline configured to receive graphical data and to render said graphical data received by said first graphics pipeline;

a second graphics pipeline configured to receive graphical data and to render said graphical data received by said second graphics pipeline;

a display device configured to display an image; and

a compositor configured to receive said graphical data rendered by said first graphics pipeline and said graphical data rendered by said second graphics pipeline, said compositor further configured to interface said graphical received by said compositor with said display device, wherein said image is based on said graphical data received by said compositor.

SUB C1

2. The system of claim 1, wherein said first graphics pipeline and said second graphics pipeline simultaneously and in parallel process said graphical data rendered by said first and second graphics pipelines.

3. The system of claim 1, further comprising:

an input device configured to receive an input from a user,

wherein at least one of said graphics pipelines is configured to selectively super-sample said graphical data rendered by said at least one graphics pipeline based on said input.

4. The system of claim 1, wherein:

said first graphics pipeline is configured to super-sample said graphical data rendered by said first graphics pipeline;

said second graphics pipeline is configured to super-sample said graphical data rendered by said second graphics pipeline; and

said compositor is configured to average data values from said graphical data super-sampled by said first and second graphics pipeline to transmit said averaged data values to said display device.

5. The system of claim 1, wherein said compositor is configured to interface said graphical data received by said compositor with said display device via a scanning process.

6. The system of claim 1, wherein said compositor is further configured to combine into a single data stream said graphical data rendered by said first graphics pipeline and said graphical data rendered by said second graphics pipeline.

7. The system of claim 1, further comprising a third graphics pipeline configured to receive a plurality of graphics commands, said third graphics pipeline configured to transmit each of said graphics commands including three-dimensional graphical data to other graphics pipelines, said third graphics pipeline further configured to render two-dimensional graphical data associated with the remaining graphics commands, wherein said compositor is further configured to receive said two-dimensional graphical data rendered by said third graphics pipeline and to interface said two-dimensional graphical data with said display device, and wherein said first and second graphics pipelines are included in said other graphics pipelines.

8. The system of claim 7, wherein said graphical data rendered by said first and second graphics pipelines is included in one of said commands transmitted by said third graphics pipeline.

9. The system of claim 1, wherein:

said first graphics pipeline is configured to receive graphical data transmitted from a graphics application and to receive an input identifying a first coordinate range, said first graphics pipeline configured to discard, based on said first coordinate range, a first portion of said graphical data transmitted from said graphics application, said first portion associated with coordinate values outside of said first coordinate range; and

said second graphics pipeline is configured to receive said graphical data transmitted from said graphics application and to receive an input identifying a second coordinate range, said second graphics pipeline configured to discard, based on said second coordinate range, a second portion of said graphical data transmitted from said graphics application, said second portion associated with coordinate values outside of said second coordinate range.

10. The system of claim 9, wherein:

said first graphics pipeline is configured to super-sample said graphical data rendered by said first graphics pipeline;

said second graphics pipeline is configured to super-sample said graphical data rendered by said second graphics pipeline; and

said compositor is configured to average data values from said graphical data super-sampled by said first and second graphics pipeline and to transmit said averaged data values to said display device.

11. The system of claim 9, wherein said graphical data rendered by said first graphics pipeline corresponds to said second portion discarded by said second graphics pipeline, and wherein said graphical data rendered by said second graphics pipeline corresponds to said first portion discarded by said first graphics pipeline.

12. The system of claim 1, further comprising a graphics application for producing graphical data that defines an object within said image, wherein said graphical data rendered by said first graphics pipeline defines a first portion of said object and wherein said graphical data rendered by said second graphics pipeline defines a second portion of said object.

13. The system of claim 12, wherein:

said first graphics pipeline is configured to receive said graphical data produced by said application and to discard a portion of said graphical data produced by said application, said graphical data discarded by said first graphics pipeline defining said second portion of said object; and

said second graphics pipeline is configured to receive said graphical data produced by said application and to discard a portion of said graphical data produced by said application, said graphical data discarded by said second graphics pipeline defining said first portion of said object.

14. The system of claim 13, wherein:

said first graphics pipeline is configured to super-sample said graphical data rendered by said first graphics pipeline;

said second graphics pipeline is configured to super-sample said graphical data rendered by said second graphics pipeline; and

said compositor is configured to average data values from said graphical data super-sampled by said first and second graphics pipeline and to transmit said averaged data values to said display device.

15. A graphical display system, comprising:

a first pipeline means for receiving graphical data and for rendering said graphical data received by said first pipeline means;

a second pipeline means for receiving graphical data and for rendering said graphical data received by said second pipeline means;

a means for displaying an image; and

a compositing means for receiving said graphical data rendered by said first pipeline means and said second pipeline means and for interfacing said graphical data received by said compositing means with said displaying means, wherein said image is based on said graphical data received by said compositing means.

16. The system of claim 15, wherein:

said first pipeline means includes a means for super-sampling said graphical data rendered by said first pipeline means;

said second pipeline means includes a means for super-sampling said graphical data rendered by said second pipeline means; and

said compositing means includes a means for averaging data values from said graphical data super-sampled by said first and second pipeline means.

17. The system of claim 15, wherein said first pipeline means includes:

a means for identifying a first coordinate range; and

a means for discarding, based on said coordinate range, graphical data associated with coordinate values outside of said coordinate range.

18. A graphical display system, comprising:

a first graphics pipeline configured to render a first portion of graphical data included in a graphical command;

a second graphics pipeline configured to render a second portion of graphical data included in said graphical command;

a display device configured to display an image; and

a compositor configured to receive said first and second graphical data portions from said first and second graphics pipelines and to interface said first and second graphical data portions with said display device,

wherein a first portion of said image is based on said first graphical data portion and a second portion of said image is based on said second graphical data portion, and

wherein said first and second graphics pipelines simultaneously render said first and second graphical data portions, respectively.

19. The system of claim 18, wherein:

said first graphics pipeline is configured to super-sample said first graphical data portion;

said second graphics pipeline is configured to super-sample said second graphical data portion; and

said compositor is configured to average data values from said first and second super-sampled portions.

20. The system of claim 18, wherein:

said first graphics pipeline is configured to identify a first coordinate range and to discard said second graphical data portion based on said first coordinate range; and

said second graphics pipeline is configured to identify a second coordinate range and to discard said first graphical data portion based on said second coordinate range.

21. A method for displaying graphical images, comprising the steps of:

receiving a graphical command, said graphical command including graphical data;

simultaneously rendering a first portion of said graphical data via a first graphical pipeline and a second portion of said graphical data via a second graphical pipeline;

interfacing first and second rendered portions with a display device; and

displaying, via said display device, an image based on said first and second portions of graphical data.

22. The method of claim 21, wherein said interfacing step includes the step of processing said first and second rendered portions to form a set of graphical data, said processing step including the step of enabling said display device to scan said set of graphical data.

23. The method of claim 21, further comprising the steps of:

receiving an input from a user; and

selectively super-sampling one of said portions of said graphical data based on said input.

24. The method of claim 21, further comprising the steps of:

receiving an input from a user; and

selectively discarding one of said portions of said graphical data based on said input.

25. The method of claim 21, further comprising the steps of:

super-sampling said first portion of said graphical data via said first graphical pipeline;

super-sampling said second portion of said graphical data via said second graphical pipeline; and

calculating data values included within said graphical data stored in said frame buffer based on said super-sampled portions of said graphical data.

26. The method of claim 21, further comprising the step of:

combining said first portion with said second portion to form said graphical data stored in said frame buffer.

27. The method of claim 21, further comprising the step of:

receiving a plurality of graphical commands at a third graphical pipeline;

determining which of said plurality of graphical commands include three-dimensional graphical data;

transmitting from said third graphical pipeline to other graphical pipelines each of said plurality of graphical commands determined to include three-dimensional graphical data;

rendering two-dimensional data from each of the remaining graphical commands via said third graphical pipeline; and

interfacing said two-dimensional with said display device,

wherein said image displayed in said displaying step is based on said two-dimensional data stored in said frame buffer, and wherein said first and second graphics pipelines are included in said other graphical pipelines.

28. The method of claim 27, wherein said first portion is included in one of said plurality of commands transmitted in said transmitting step.

29. The method of claim 21, further comprising the steps of:

identifying a first coordinate range;

identifying a second coordinate range;

discarding, via said first graphical pipeline and based on said first coordinate range, said second portion of said graphical data, said second portion associated with coordinate values outside of said first coordinate range; and

discarding, via said second graphical pipeline and based on said second coordinate range, said first portion of said graphical data, said first portion associated with coordinate values outside of said second coordinate range.

30. The method of claim 29, further comprising the steps of:

super-sampling said first portion of said graphical data via said first graphical pipeline;

super-sampling said second portion of said graphical data via said second graphical pipeline; and

calculating data values included within said graphical data stored in said frame buffer based on said super-sampling steps.